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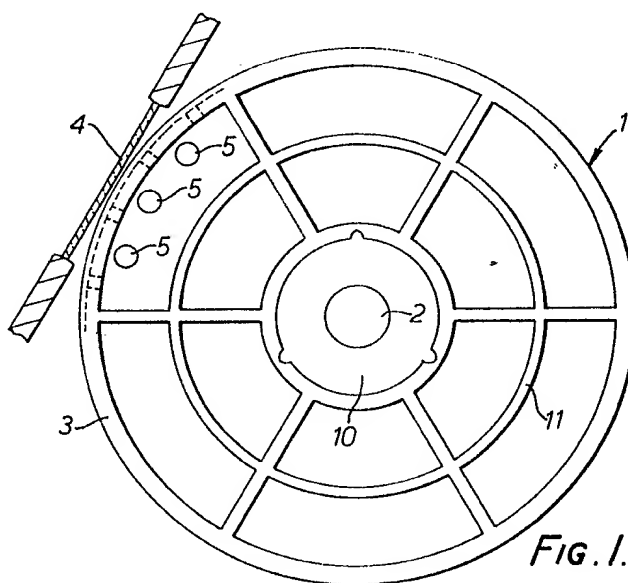
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## (54) **Gaming or amusement with prizes machines**

(57) A fruit machine reel (1) is moulded in plastics in skeletal form to reduce weight. Its outer rim (3) is formed with windows (6) and around this is wrapped a translucent band (7) bearing the symbols. Behind the rim there is a group of circumferentially spaced light bulbs (5) which, when the

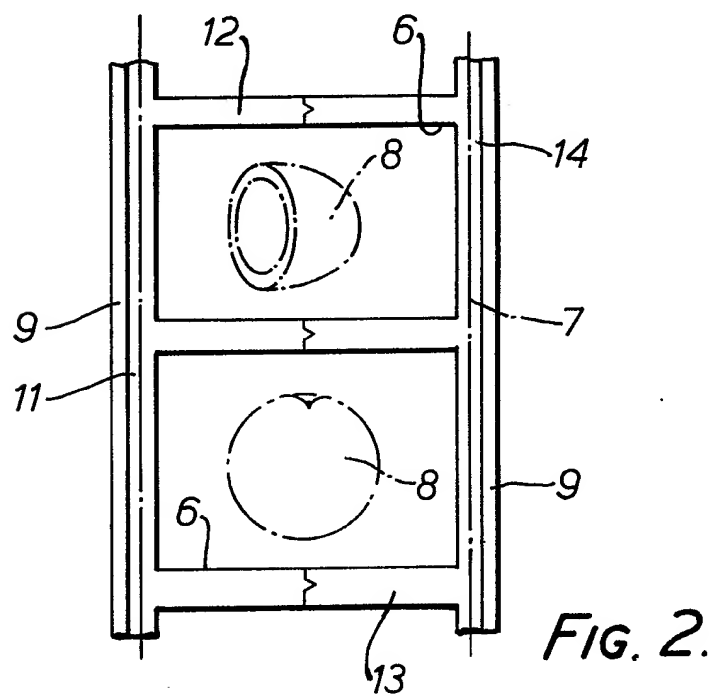
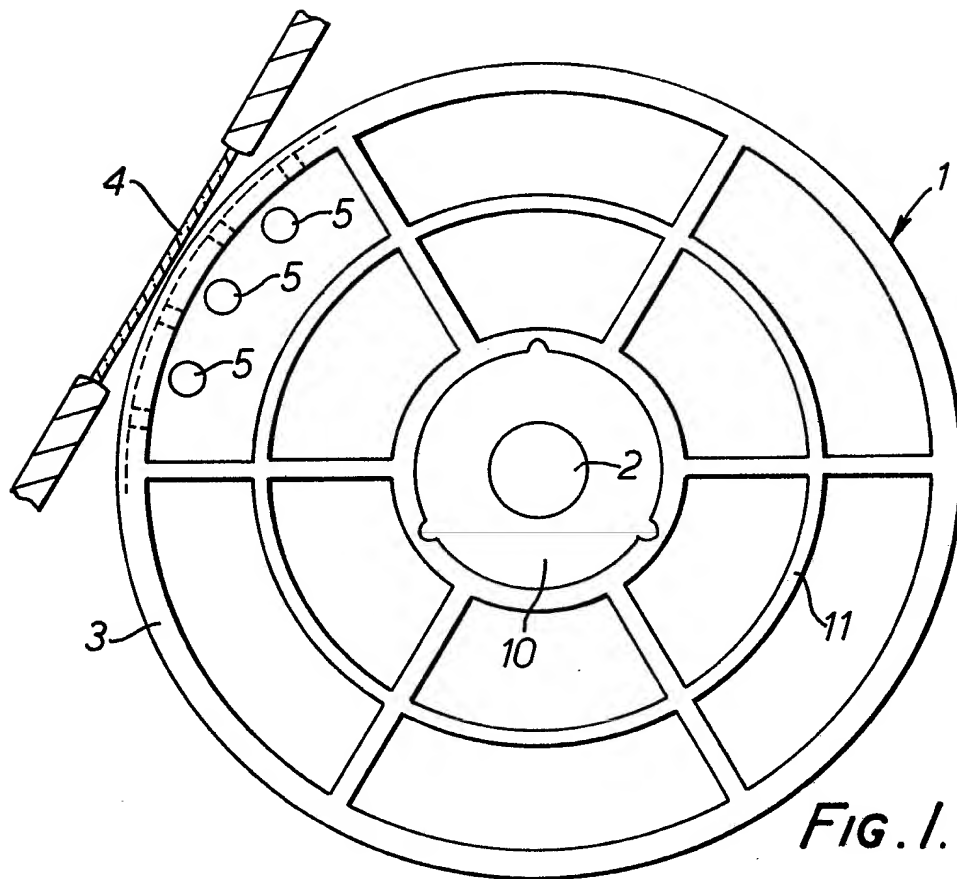
reel is stationary, illuminates three adjacent windows (6) together, in any combination of two or singly. Thus instead of physically indexing the reel, a symbol can effectively be brought into the prospective winning combination by changing the illumination. The reel may be a two piece moulding, with one piece being a main disc-like portion having fingers around its periphery married to a ring with corresponding fingers.



*Fig. 1.*

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## SPECIFICATION

**Improvements relating to gaming or amusement with prizes machines**

This invention relates to gaming or amusement with prizes machines, and is principally concerned with those known as fruit machines. In these, a number of reels are spun, and eventually stop to show a combination of symbols in display windows. Certain combinations in a line generate prizes.

Conventionally, the reels are discs with annular flanges to which bands bearing the fruit and other symbols are attached. Only small sections of these bands are visible in the display windows, each usually showing one symbol centrally, with those adjacent above and below also in view, but not full face. The reels are set back slightly from the display windows, so that lights within the machine cabinet can shine onto the portion of the symbol band that is showing.

Electronic control systems for such reels have recently come into use which make stepper motors the best form of motive power. However, these are not compatible with heavy reels, whose inertia may generate slipping, particularly during start-up and braking. The aim of this invention is to provide a reel construction more suitable for use with stepper motors, and one which at the same time makes for better illumination of the symbols and offers alternative means for identifying a winning combination line.

According to the present invention there is provided a reel for amusement or gaming-with-prizes machines, wherein the peripheral portion of the reel has windows, over each of which a translucent symbol bearing element can be fitted.

The presence of windows at the maximum radius considerably reduces the reel inertia, and at the same time allows the symbols to be lit from behind. The lighting means may comprise separate bulbs for each visible symbol, usually three as mentioned above, and they may be selectively energised to illuminate one or two rather than all three symbols. Thus the lights can be used to vary or augment the combination line rather than moving the reel itself. For example, with the feature known as "nudging", instead of indexing the reel one symbol position, the upper or lower light may be energised instead of the central one in response to the pressing of an adjustment or "nudge" button.

As well as forming windows in the peripheral flange, the main disc part of the reel may also be of skeletal form to reduce the weight. Preferably the construction will be in plastics material, with a heat resistant hub portion which will be immediately adjacent the motor. For ease of moulding, the main disc portion may be formed as one piece with projecting fingers which will define parts of the windows, and these will be completed by an independently moulded ring with matching fingers.

For a better understanding of the invention, one constructional form will now be described, by way

of example, with reference to the accompanying drawing in which:

Figure 1 is a side view of a reel for a fruit machine with associated display means, and

Figure 2 is a detail of the reel, looking in the radial direction.

The reel 1 rotates on a shaft 2 to display a portion of its outer rim 3 in a window 4. Behind this window there are three light bulbs 5 spaced in the circumferential direction of the reel, and the rim 3 passes between them and the window.

The rim is formed with a plurality of windows 6, and around it is wrapped a band 7 of transparent or translucent material bearing fruit and other symbols 8. One symbol is registered with each window 6, and the positions of the bulbs 5 correspond to adjacent window spacing. The band 7 is axially confined by radially projecting flanges 9.

The reel 1 is made of moulded plastics in three parts. There is a hub 10 of hard plastics material which span fits into the centre of a "disc" portion 11 of skeletal form to reduce the weight. Around its periphery it has fingers 12 which project axially to meet corresponding fingers 13 projecting in the opposite direction from a ring 14, which is the third moulded part. These fingers are secured together to complete the windows 6. They are shown as joining at the axial mid point, but this is not essential. The hub is separately formed in a material which can resist the heat of the motor (not shown), while the other two parts do not have to be of that quality.

It is envisaged that this reel will have stepper motor drive, and can therefore be controlled without continuous reference to the reel itself. However, a datum point will usually be provided, so that a check on the reel position can be made once per revolution.

It will be seen that the rim of the reel can be brought very close to the window 4, and that three symbols will be displayed. They may be all or selectively illuminated, and a convenient way of indicating the symbol line which is being considered for a prize is to illuminate just one of the bulbs for each reel of the machine. This need not be the central line. It need not even be a horizontal or straight line; for example with three reels showing a  $3 \times 3$  array of symbols either diagonal might be illuminated. As explained above, the bulbs can also be used for "nudging" without physically moving the reel.

Another use for the bulbs would be to serve as an indication of the direction in which the reel will move, either on a normal spin or upon indexing, or the direction in which the player should shift the reel for the best results if he has the option of directions. The light may be steady or flashing, and both modes could be used at different times to indicate different things, for example a steady light for part of the combination or potential win line and a flashing light for a direction indication.

If individual illumination of symbols in the display window 4 is not required it would of course be possible to have just one bulb or tube to

light up all the visible symbols simultaneously.

#### CLAIMS

- 5 1. A reel for amusement or gaming with prizes machine, wherein the peripheral portion of the reel has windows, over which a translucent symbol bearing element can be fitted.
2. A reel as claimed in claim 1, wherein said peripheral portion is a cylindrical flange around a skeletal, disc-like portion.
- 10 3. A reel as claimed in claim 2, wherein said disc-like portion is formed in one piece with projecting fingers defining parts of the windows,

- 15 and an independently formed ring with matching fingers is married to the main portion to complete the windowed flange.

4. In combination, a reel as claimed in claim 1, 2 or 3, wherein lights are arranged to illuminate a group of adjacent windows from behind in relation to the normal viewing position, and means are provided for selectively energising the lights to illuminate single or different combinations of said windows.

- 20 5. A reel for amusement or gaming with prizes machines substantially as hereinbefore described with reference to the accompanying drawing.
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